



STIC Search Report

EIC 2600

STIC Database Tracking Number: 109811

TO: Conrad Dewitte
Location: Pk2 6D14
Art Unit: 2673
Wednesday, December 10, 2003

Case Serial Number: 10044095

From: Pamela Reynolds
Location: EIC 2600
PK2-3C03
Phone: 306-0255

Pamela.Reynolds@uspto.gov

Search Notes

Dear Conrad Dewitte,

Please find attached the search results for 10044095. I used the search strategy I emailed to you to edit, not hearing from you I proceeded. I searched the standard Dialog files, IBM TDBs, and the internet.

If you would like a re-focus please let me know.

Thank you.

Pamela Reynolds

PCBS ser. Tan ad53C 8em "P.C. - 3C03"
Sam Shld -
14.11.18.11
14.06

WEST**End of Result Set** [Generate Collection](#) [Print](#)

L4: Entry 1 of 1

File: TDBD

Sep 1, 1984

TDB-ACC-NO: NA84092171

DISCLOSURE TITLE: Contamination Shielded Retro-Reflective Overlay Sensor

PUBLICATION-DATA:

IBM Technical Disclosure Bulletin, September 1984, US

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PUBLICATION-DATE: September 1, 1984 (19840901)

CROSS REFERENCE: 0018-8689-27-4A-2171

DISCLOSURE TEXT:

- Encoded keyboard overlays usually require some sensing technology to identify the overlay in place. Hall effect switches, reed switches, mechanical switches and optical switches have all been employed for this purpose, with optical switches being the most prevalent. In a dirty or contamination-laden environment, optical devices may become unreliable due to soiling of the source, the sensor or the intervening area, and/or reflectors, if any, are used. The present disclosure removes the photo source and sensor to an area which is protected from contamination and provides a shield for the overlay tabs or light interrupter portions which are to be sensed. This requires a reflective technique, as described below. In Fig. 1A, a horizontal cross section through a portion of a keyboard incorporating the optical overlay sensing technique of this disclosure is set forth. The keyboard 1 may be an elastic diaphragm or membrane switch type or any other sort usually employed. An overlay 2 usually carries the code indicia or character nomenclature that will be associated with individual areas on the keyboard 1. Some system is usually incorporated to allow a using device, such as a computer or a terminal, to determine which overlay is in place to assign the necessary codes for each area or key which may be depressed. In the present instance, cut out tabs or blank spaces are incorporated on the edge of the overlay 2, as shown generally in the area 3. Area 3 is enclosed beneath a protective cover 4 at the edge of the keyboard. This prevents dust, dirt, grease, spilled foodstuff or the like from entering the area 3. A seal would be incorporated but is not shown at the edge of the lip 4. A prism 5 or retro-reflective mirror is incorporated under the edge of the cover 4. Light from a photo source 6 passes through a lens 7 and strikes a tab on the overlay 2 if it has not been cut out. This will not provide a signal back to the photodetector 8 and may be viewed as an electric logic 0, for example. If a tab in the keyboard overlay 2 has been cut out, the light may pass through the area and strike the retro-reflective element 5 and return the sensor 8, providing a digital logic 1 output, for example. Fig. 1B shows the assembly of the keyboard with its protective cover 9 positioned on top of the keyboard assembly 1. A cut-out area 3 is also indicated. In Fig. 1C, a typical overlay sheet 2 with tabs 10 or cut-out portions 11 is shown. A cut-out can be utilized as a logical 1 since the complete optical path will exist, as previously described, and a tab 10 can be left for a logical 0. A plurality of tabs or tab positions, each with a separate set of source and sensor, can be included. For example, three sources and sensors, each provided with a retro-reflective element 5, could be used to sense three tab positions on the edge of an overlay 2. This would allow eight different overlays to be employed using a binary code scheme for the tab or cut-outs, as shown in Fig. 1C. As shown in Fig. 1A, the source and sensor may be positioned beneath the keyboard 1 and angled to direct light beams past the edge of the cut-out 3 which is beneath the protective cover 4 so that contaminants may not enter the area of the light path. The reflective element 5 is located beneath the cover 4 and is also shielded from contamination. For example, if such a keyboard were used in a fast food environment, spilled foodstuff, such as a liquid and sauce, could ordinarily interfere with the sensing scheme of an optical sort. However, in this design, the light source and sensor elements are located beneath the keyboard and are shielded by the keyboard cover 9 and the keyboard housing and covers 4. The light beam is angled to pass through the cut out area 3 to strike the reflective element 5 positioned beneath the protective cover 4. The reflective element 5 must be angled or be a prism preferably to allow the light beam to return back in a parallel path to a sensor located adjacent to the source.

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L Number	Hits	Search Text	DB	Time stamp
-	39	161564/1998 1998-161564 "161564"	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/12/04 08:24
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-	1857	345/173.cccls.	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/12/04 09:12
-	371	345/174.cccls.	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/12/02 12:17
-	255	345/175.cccls.	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/12/02 12:28
-	86	345/176.cccls.	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/12/02 12:42
-	155	345/177.cccls.	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/12/02 12:46
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-	1479	345/173.ccls. and @ad<20010118	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/12/03 15:59
-	1	touchpad and (anti?theft adj latch)	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/12/04 08:25
-	0	("touch pad" touchpad) same assembl	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/12/04 08:42
-	0	("touch pad" touchpad) and assembl	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/12/04 08:42
-	605	("touch pad" touchpad) and construct	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/12/04 09:09
-	2083	touch?pad touchpad	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/12/04 09:11
-	1479	345/173.ccls. and @ad<20010118	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/12/04 10:45
-	183843	(adhesive sticky) and (ring seal washer)	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/12/04 10:46
-	69801	(adhesive sticky) same (ring seal washer)	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/12/04 10:46
-	49151	(adhesive sticky) same (ring seal washer) and @ad<20010118 and @pd<20010118	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/12/04 10:55
-	51187	(adhesive sticky) same (ring seal washer gasket) and @ad<20010118 and @pd<20010118	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/12/04 10:58
-	7006	(adhesive sticky) same (ring seal washer gasket) same (water liquid) and @ad<20010118 and @pd<20010118	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/12/04 15:23
-	246	(theft steal) same laptop	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/12/04 15:38
-	3452	(shock padding cushion) same (display touch?pad touchpad) and @ad<20010118	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/12/04 15:56